

**Application No. 09/865,763****Atty Docket No. 3COM 3611-1****REMARKS**

Claims 1-42 are pending in this application.

Various passages of the specification and claims 12 and 19 are objected to.

Claims 1 and 8 are rejected under 35 U.S.C. 102(a) and claims 2, 3, 7, 19, 23, 26, 27, 28, 31 and 32 under 35 U.S.C. 103(a). Claims 4-6, 9-18, 20-22, 24, 25, 29, 30 and 33-42 are objected to as being dependent upon a rejected claim base, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Specification Objections**

The Abstract has been amended as noted.

The fonts used appear to this reader to be consistent, with particular focus on page 1, line 24. We have examined both the native Word document and a scanned version of the application as submitted. Further guidance from the Examiner would be appreciated.

Page 4, line 10 has been amended as suggested.

**Claim Objections**

The wording of claim 12, line 2 appears to be correct. The phrase "tends to the square" is used in the mathematical sense of asymptotically approaching.

The formatting of claim 19, line 4 has been conformed to the indentation that the Examiner suggests, in the restatement of claims above. Since no words have been added or removed, it is still indicated as having its "Original" wording.

**Claim Rejections Under USC § 102(a)**

Claims 1 and 8 are rejected under 35 U.S.C. 102(a) as anticipated by Wu et al. (US Patent 6,134,273). Applicants have read Wu et al. and searched it electronically for discussion of self-similarity, as that term is defined in this application by reference to Hamming distances. Neither self-similarity nor Hamming distances are mentioned by Wu et al. Therefore, Wu et al. does not anticipate the limitation "*selecting the bit load per sub channel based on the self similarity property of the constellation*".

On pages 19-20 of the application, self-similarity is defined. In part, The distribution of Hamming distances repeats itself inside smaller blocks of the constellation. There is a central cross in each square block, and the

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constellation neighbors separated by the cross have the maximal Hamming distance in the block. Each of the four sub blocks of the square block with the  $n$  error central cross repeats the pattern having an  $(n-1)$  error central cross. Such a geometrical structure is called *self similar*.

(italics in application). Searches of patent literature and using scholar.google.com indicate that self-similarity is well-known in modern fractal theory, as indicated by the application, but not ordinarily associated with QAM and Hamming distances. The express definition given in this specification is not inconsistent with how the term is used in fractal analysis. These applicants have defined self-similarity with reasonable clarity, deliberateness and precision. MPEP § 2111.01 [III] at 2100-50 (Rev. 2, May 2004) *quoting Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387-88, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992).

When the express definition of self-similarity in terms of Hamming distances is applied to these claims, it is apparent that Wu et al. says nothing similar to what is claimed or disclosed in this application.

Therefore, Applicants respectfully urge that the rejections under section 102(a) based on Wu et al. should be withdrawn.

#### **Claim Rejections Under USC § 103(a)**

Claims 2, 3, 7, 19, 23, 26, 27, 28, 31 and 32 under 35 U.S.C. 103(a) as being unpatentable over Wu et al. in view of various references including Beidas et al. (US Patent 6,608,874), Mantri et al. (US Patent 6,732,281), and Isaksson et al. (US Patent 6,538,986).

When the express definition of self-similarity in terms of Hamming distances is applied to these claims, it is apparent that Wu et al. says nothing similar to what is claimed or disclosed in this application. Wu et al. does not supply the elements for which the Examiner relies on the reference.

Therefore, Applicants respectfully urge that the rejections under section 103(a) based on Wu et al. should be withdrawn.

#### **Interview Request**

Should the Examiner take issue with the express definition of self-similarity in this application, counsel requests an interview to discuss the issue and to consider any amendment that the Examiner might propose to put the case in condition for allowance.

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**CONCLUSION**

Applicants respectfully submit that the pending claims are now in condition for allowance and thereby solicit acceptance of the claims, in light of these amendments.

The undersigned can ordinarily be reached at his office at (650) 712-0340 from 8:30 a.m. to 5:30 p.m. PST, Monday through Friday, and can be reached at his cell phone (415) 902-6112 most other times.

Respectfully submitted,

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